

Examiner Signature		Date Considered	
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<b>Substitute for Form 1449/PTO</b> <b>INFORMATION DISCLOSURE</b> <b>STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>			<b>Complete if Known</b>		
			Application Number	10/750,715	
			Filing Date	December 31, 2005	
			First Named Inventor:	Newburn, et al.	
			Art Unit	2187	
			Examiner Name	Farrokh, Hashem	
Sheet	1	of	1	Attorney Docket Number	42P18598
<b>RELATED PATENT APPLICATION INFORMATION</b>					
Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			T <sup>2</sup>
		First Foreign Office Action from Counterpart Chinese Patent Application No. 200480039058.1 (Attorney Docket No. 42P18598CN) mailed June 22, 2007, English Translation included (9 pgs.)			

Examiner Signature		Date Considered	
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\*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450, DO NOT SENT FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

**THE PATENT OFFICE OF THE STATE INTELLECTUAL PROPERTY OFFICE  
OF THE PEOPLE'S REPUBLIC OF CHINA**

Address: No. 6 Xi Tucheng Lu, Jimeng Qiao Haidian District, Beijing Post code: 100088 P.O. BOX: Beijing 8020

<b>Shanghai Patent &amp; Trademark Law Office</b>		Date of Dispatch June 22, 2007
Application No.: 200480039058.1	Applicant: INTEL CORPORATION	
Application Date: December 22, 2004	Agent:	
Title: PROCESSOR AND MEMORY CONTROLLER CAPABLE OF USE IN COMPUTING SYSTEM THAT EMPLOYS COMPRESSED CACHE ...		

**THE FIRST OFFICE ACTION  
(PCT APPLICATION IN THE NATIONAL PHASE)**

1. ☒ According to the Request for Substantive Examination raised by the applicant and based on the provision of Item 1, Article 35 of the Patent Law, the Examiner has proceeded with the Examination as to Substance on the above mentioned application for patent for invention.  
☐ According to Item 2, Article 35 of the Chinese Patent Law, the Patent Office has decided to examine the above application for patent for invention.
  
2. ☒ The applicant has requested that the filling date of  
Dec 31, 2003 at the US Patent Office as the priority date,  
\_\_\_\_\_ at the \_\_\_\_\_ Patent Office as the priority date,  
\_\_\_\_\_ at the \_\_\_\_\_ Patent Office as the priority date,
  
3. ☐ The following amended documents submitted by the applicant cannot be accepted for not conforming to the provision of Article 33 of the Patent Law:
  - ☐ The Chinese version of the attachment of the International Preliminary Examination Report.
  - ☐ The Chinese version of the amended document submitted according to the provision of Rule 19 of the Patent Cooperation Treaty.
  - ☐ The amended document submitted according to the provision of Rule 28 or Rule 41 of the Patent Cooperation Treaty.
  - ☐ The amended document submitted according to the provision of Rule 51 of the Implementing Regulations of the Patent Law.

Refer to the text of the notice for the specific reason of non-acceptance thereof.
  
4. ☒ The examination is conducted by directing at the Chinese version of the original International Application submitted.  
☐ The examination is conducted by directing at the following application documents:
  - ☐ Description,
    - p. \_\_\_\_\_, the Chinese version of the original International Application Document submitted;
    - p. \_\_\_\_\_, the Chinese version of the attachment of the International Preliminary Examination Report;
    - p. \_\_\_\_\_, the amended document submitted according to the provision of Rule 28 or Rule 41 of

the Patent Cooperation Treaty.

p. \_\_\_\_\_, the amended document submitted according to the provision of Rule 51 of the Implementing Regulations of the Patent Law.

☐ **Claims,**

\_\_\_\_\_, the Chinese version of the original International Application Document submitted.

\_\_\_\_\_, the Chinese version of the amended document submitted according to the provision of Rule 19 of the Patent Cooperation Treaty.

\_\_\_\_\_, the Chinese version of the attachment of the International Preliminary Report.

\_\_\_\_\_, the amended document submitted according to the provision of Rule 28 or Rule 41 of the Patent Cooperation Treaty.

\_\_\_\_\_, the amended document submitted according to the provision of Rule 51 of the Implementing Regulations of the Patent Law.

☐ **Attached Drawings,**

p. \_\_\_\_\_, the Chinese version of the original International Application Document submitted.

p. \_\_\_\_\_, the Chinese version of the attachment of the International Preliminary Examination Report.

p. \_\_\_\_\_, the amended document submitted according to the provision of Rule 28 or Rule 41 of the Patent Cooperation Treaty.

p. \_\_\_\_\_, the amended document submitted according to the provision of Rule 51 of the Implementing Regulations of the Patent Law.

5. ☒ This Notice cites the following Comparison Document(the number of which shall continue to be used in the subsequent examination proceedings):

No.	Number/Title of Document	Date of Publication (or the filing date of the conflicting Application)
1	US6640283B2	2003.10.28

6. The conclusive opinion drawn from the examination:

☐ **As regards the Specification:**

☐ The contents of the application fall under the scope stipulated by Article 5 of the Patent Law for which no patent right should be granted.

☐ The specification does not conform with the provision of Item 3, Article 26 of the Patent Law.

☐ The drafting of the specification does not conform with the provision of Rule 18 of the Implementing Regulations.

☒ **As regards the Claims:**

☐ Claim \_\_\_\_\_ does not possess the novelty as stipulated in Item 2, Article 22 of the Patent Law.

☒ Claim 1-2 does not possess the inventiveness as stipulated in Item 3, Article 22 of the Patent Law.

☐ Claim \_\_\_\_\_ does not possess the practical applicability as stipulated in Item 4, Article 22 of the Patent Law.

☐ Claim \_\_\_\_\_ falls under the scope of Article 25 of the Patent Law where no patent right is to be granted.

☐ Claim \_\_\_\_\_ does not conform with the provision of Item 4, Article 26 of the Patent Law.

☐ Claim \_\_\_\_\_ does not conform with the provision of Item 1, Article 31 of the Patent Law.

☐ Claim \_\_\_\_\_ does not conform with the provision of Item 1, Rule 13 of the Implementing Regulations of the Patent Law.

- ☐ Claim \_\_\_\_\_ does not conform with the provision of Rule 18 of the Implementing Regulations of the Patent Law.
- ☐ Claim \_\_\_\_\_ does not conform with the provisions of Rules 20 of the Implementing Regulations of the Patent Law.
- ☐ Claim \_\_\_\_\_ does not conform with the provisions of Rules 21 of the Implementing Regulations of the Patent Law.
- ☐ Claim \_\_\_\_\_ does not conform with the provisions of Rules 22 of the Implementing Regulations of the Patent Law.
- ☐ Claim \_\_\_\_\_ does not conform with the provisions of Rules 23 of the Implementing Regulations of the Patent Law.

Refer to the text of this Notice for the specific analyses of the conclusive opinion.

7. Based on the above conclusive opinion, the Examiner deems that:
- ☐ The applicant shall amend the application documents in accordance with the requirements raised in the text of the Notice.
- ☐ The applicant shall discuss in his observations reasons why this application for patent can be granted a patent right, and amend the portions indicated in the text of the Notice which have been deemed as not conforming with the provisions, or no patent right shall be granted.
- ☒ There are no substantive contents in the application for patent that can be granted a patent right. If the applicant does not present reasons or the reasons presented are not sufficient, the application shall be rejected.
8. The applicant is asked to note the following items:
- (1) According to the provision of Article 37 of the Patent Law, the applicant shall submit his observations within four months from the receipt of this Notice. Where, without justified reasons, the applicant does not respond at the expiration of said date, the application shall be deemed to have been withdrawn.
- (2) The applicant shall amend his application according to Article 33 of the Patent Law. The amended documents shall be in duplicate, and the form, in conformity with the relevant provisions in the Examination Guide.
- (3) The applicant and/or his agent can not, without first making an appointment, go to the Patent Office to have an interview with the Examiner.
- (4) The observations and/or the amended documents shall be mailed or delivered to the Department of Receipt, the Patent Office of the State Intellectual Property Office. No documents shall possess legal effects if not mailed or delivered to the Department of Receipt.
9. The text of this Notice totals 2 page(s), and includes the following attachment(s):
- ☐ duplicate copy(ies) of cited comparison document(s), altogether \_\_\_\_\_ copy(ies) \_\_\_\_\_ pages.
- ☐

Examination Department: \_\_\_\_\_ Examiner(Seal): \_\_\_\_\_

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KCT171

## TEXT OF THE FIRST OFFICE ACTION

Application Number: 200480039058.1

The present application relates to a memory controller. After examination, the office action is now provided as follows:

1. Claim 1 asks to protect a memory controller. Reference 1 (US6640283B2) disclosed a cache that can provide compression, and the following technical features were specifically revealed (see line 66 in column 4 to line 55 in column 6 of the Description, and Figure 2): the second level cache 106 can compress and decompress the data stored in the cache, and thereby data of more than one sublines can be compressed within one subline so as to release more free spaces; the cache 106 has a tag memory 204 (corresponding to the compression map cache); the pointer of the tag memory 204 points to the compressed flag 212 (corresponding to the compressed cache) associated with each of the sublines; the compressed flag 212 is used for identifying whether the data in the subline is compressed; therefore, the cache 106 must have a controller to control the compression and decompression of data and the configuration of the compression tag. Comparing the technical solution protected by Claim 1 with the contents disclosed by Reference 1, the only difference is in that the compression map cache is comprised in the memory controller. Based on this distinguishing feature, it can be determined that the technical problem to be solved by the present invention is to provide a method of providing the compression map cache in the memory controller. However, it is common knowledge in the art that the compression map cache can be put in the memory controller. No matter whether the compression map cache is put inside the memory controller or outside the memory controller, it is the same in performing the function of the memory controller. Therefore, it is obvious for those skilled in the art to obtain the technical solution protected by this claim on the basis of Reference 1 by combining the common knowledge. Thus, it does not possess prominent substantive features or represent a notable progress, and thus does not possess the inventiveness as stipulated in Item 3, Article 22 of the Patent Law.

2. Claim 2 asks to protect a processor and a memory controller integrated on a

same semiconductor die. Reference 1 (US6640283B2) disclosed a cache that can provide compression, and the following technical features were specifically revealed (see line 66 in column 4 to line 55 in column 6 of the Description, and Figure 2): the second level cache 106 and the processor are integrated on a same semiconductor die; the second level cache 106 can compress and decompress the data stored in the cache, and thereby data of more than one sublines can be compressed within one subline so as to release more free spaces; the cache 106 has a tag memory 204 (corresponding to the compression map cache); the pointer of the tag memory 204 points to the compressed flag 212 (corresponding to the compressed cache) associated with each of the sublines; the compressed flag 212 is used for identifying whether the data in the subline is compressed; therefore, the cache 106 must have a controller to control the compression and decompression of data and the configuration of the compression tag. Comparing the technical solution protected by Claim 1 with the contents disclosed by Reference 1, the only difference is in that the compression map cache is comprised in the memory controller. Based on this distinguishing feature, it can be determined that the technical problem to be solved by the present invention is to provide a method of providing the compression map cache in the memory controller. However, it is common knowledge in the art that the compression map cache can be put in the memory controller. No matter whether the compression map cache is put inside the memory controller or outside the memory controller, it is the same in performing the function of the memory controller. Therefore, it is obvious for those skilled in the art to obtain the technical solution protected by this claim on the basis of Reference 1 by combining the common knowledge. Thus, it does not possess prominent substantive features or represent a notable progress, and thus does not possess the inventiveness as stipulated in Item 3, Article 22 of the Patent Law.

Based on the above reasons, all of the independent claims of the present application do not possess inventiveness. The application still has no prospect of being granted a patent right. If the applicant does not state convincing reasons that the present application has inventiveness within the time limit specified by the present notification, the present application will be rejected.



# 中华人民共和国国家知识产权局

200233		发文日
上海桂平路 435 号 上海专利商标事务有限公司 李玲		
申请号: 2004800390581		
申请人: 英特尔公司		
发明名称: 能在使用压缩的高速缓存行信息价值的计算系统中使用的处理器和存储器控制器		

## 第一次审查意见通知书

(进入国家阶段的 PCT 申请)

- ☒ 应申请人提出的实审请求, 根据专利法第 35 条第 1 款的规定, 国家知识产权局对上述发明专利申请进行实质审查。  
☐ 根据专利法第 35 条第 2 款的规定, 国家知识产权局专利局决定自行对上述发明专利申请进行审查。
- ☒ 申请人要求以在:  
US 专利局的申请日 2003 年 12 月 31 日为优先权日,  
专利局的申请日 年 月 日为优先权日,  
专利局的申请日 年 月 日为优先权日。
- ☐ 申请人于 年 月 日和 年 月 日以及 年 月 日提交了修改文件。  
经审查, 申请人于 年 月 日提交的 不符合专利法实施细则第 51 条第 1 款的规定。

- ☒ 审查是针对原始提交的国际申请的中文译文进行的。

☐ 审查是针对下述申请文件进行的:

- ☐ 说明书 第 页, 按照进入中国国家阶段时提交的国际申请文件的中文文本;  
第 页, 按照专利性国际初步报告附件的中文文本;  
第 页, 按照依据专利合作条约第 28 条或 41 条规定所提交的修改文件;  
第 页, 按照依据专利法实施细则第 51 条第 1 款规定所提交的修改文件;  
第 页, 按照 年 月 日所提交的修改文件。

- ☐ 权利要求 第 项, 按照进入中国国家阶段时提交的国际申请文件的中文文本;  
第 项, 按照依据专利合作条约第 19 条规定所提交的修改文件的中文文本;  
第 项, 按照专利性国际初步报告附件的中文文本;  
第 项, 按照依据专利合作条约第 28 条或 41 条规定所提交的修改文件;  
第 项, 按照依据专利法实施细则第 51 条第 1 款规定所提交的修改文件;  
第 项, 按照 年 月 日所提交的修改文件。

- ☐ 附图 第 页, 按照进入中国国家阶段时提交的国际申请文件的中文文本;  
第 页, 按照专利性国际初步报告附件的中文文本;  
第 页, 按照依据专利合作条约第 28 条或 41 条规定所提交的修改文件;  
第 页, 按照依据专利法实施细则第 51 条第 1 款规定所提交的修改文件;  
第 页, 按照 年 月 日所提交的修改文件。

21302  
2008.7



回函请寄: 100088 北京市海淀区前门桥西土城路 8 号 国家知识产权局专利局受理处收  
(注: 凡寄给审查员个人的信函不具有法律效力)



申请号 2004800390581

☒本通知书引用下述对比文件(其编号在今后的审查过程中继续沿用):

编号

文件号或名称

公开日期(或抵触申请的申请日)

1

US6640283B2

2003年10月28日

## 5. 审查的结论性意见:

☐关于说明书:

- ☐申请的内容属于专利法第5条规定的不授予专利权的范围。
- ☐说明书不符合专利法第26条第3款的规定。
- ☐说明书不符合专利法第33条的规定。
- ☐说明书的撰写不符合专利法实施细则第18条的规定。

☒关于权利要求书:

- ☐权利要求 不具备专利法第22条第2款规定的新颖性。
- ☒权利要求 1-2 不具备专利法第22条第3款规定的创造性。
- ☐权利要求 不具备专利法第22条第4款规定的实用性。
- ☐权利要求 属于专利法第25条规定的不授予专利权的范围。
- ☐权利要求 不符合专利法第26条第4款的规定。
- ☐权利要求 不符合专利法第31条第1款的规定。
- ☐权利要求 不符合专利法第33条的规定。
- ☐权利要求 不符合专利法实施细则第2条第1款的规定。
- ☐权利要求 不符合专利法实施细则第13条第1款的规定。
- ☐权利要求 不符合专利法实施细则第20条的规定。
- ☐权利要求 不符合专利法实施细则第21条的规定。
- ☐权利要求 不符合专利法实施细则第22条的规定。
- ☐权利要求 不符合专利法实施细则第23条的规定。

☐分案的申请不符合专利法实施细则第43条第1款的规定。

上述结论性意见的具体分析见本通知书的正文部分。

## 6. 基于上述结论性意见, 审查员认为:

- ☐申请人应按照通知书正文部分提出的要求, 对申请文件进行修改。
- ☐申请人应在意见陈述书中论述其专利申请可以被授予专利权的理由, 并对通知书正文部分中指出的不符合规定之处进行修改, 否则将不能授予专利权。
- ☒专利申请中没有可以被授予专利权的实质性内容, 如果申请人没有陈述理由或者陈述理由不充分, 其申请将被驳回。

## 7. 申请人应注意下述事项:

- (1) 根据专利法第37条的规定, 申请人应在收到本通知书之日起的2个月内陈述意见, 如果申请人无正当理由逾期不答复, 其申请将被视为撤回。
- (2) 申请人对其申请的修改应符合专利法第33条的规定, 修改文本应一式两份, 其格式应符合审查指南的有关规定。
- (3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处, 凡未邮寄或递交给受理处的文件不具备法律效力。
- (4) 未经预约, 申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

8. 本通知书正文部分共有 2 页, 并附有下列附件:☐引用的对比文件的复印件共      份      页。

审查员: 张坦(A539)

2007年5月25日

审查部门

电学发明审查部

21302  
2006.7

回函请寄: 100088 北京市海淀区蓟门桥西土城路8号 国家知识产权局专利局受理处收  
(注: 凡寄给审查员个人的信函不具有法律效力)

中华人民共和国国家知识产权局

## 第一次审查意见通知书正文

申请号: 2004800390581

本申请涉及一种存储器控制器, 经审查, 现提出如下审查意见。

1、权利要求1请求保护一种存储器控制器, 对比文件1 (US6640283B2) 公开了一种能进行压缩的高速缓存, 并具体公开了如下技术特征 (参见说明书第4栏第66行至第6栏第55行, 图2): 二级高速缓存106能够对存储在高速缓存中的数据进行压缩及解压缩, 因而超过一个的子行中的数据可被压缩在一个子行中, 以释放出更多的空闲空间; 高速缓存106中具有标记存储器204 (相当于压缩映象高速缓存), 标记存储器204的指针指向与每个子行相联系的压缩标志212 (相当于压缩高速缓存), 该压缩标志212用于标识该子行中的数据是否被压缩, 因而该高速缓存106中必然具有控制器来控制数据的压缩、解压缩和压缩标志的设置。权利要求1所请求保护的技术方案与对比文件1中公开的内容相比, 其区别在于权利要求1中的压缩映象高速缓存包括在存储器控制器中, 基于该区别技术特征可以确定本发明实际要解决的技术问题是提供一种将压缩映象高速缓存放置于存储器控制器中的方式, 但对于本领域的技术人员来说可将压缩映象高速缓存放置于存储器控制器中属于本领域的公知常识, 无论是将压缩映象高速缓存放置于存储器控制器中还是存储器控制器外部的其它部件中, 在实现存储器控制器的功能上是一致的。因而在对比文件1的基础上结合公知常识, 得到该权利要求所请求保护的技术方案, 对于本领域的技术人员来说是显而易见的, 不具有突出的实质性特点和显著的进步, 因此该权利要求不具有专利法第二十二条第三款规定的创造性。

2、权利要求2请求保护一种集成于同一半导体管芯上的处理器和存储器控制器, 对比文件1 (US6640283B2) 公开了一种能进行压缩的高速缓存, 并具体公开了如下技术特征 (参见说明书第4栏第66行至第6栏第55行, 图1-2): 二级高速缓存106与处理器集成在一个芯片上, 二级高速缓存106能够对存储在高速缓存中的数据进行压缩及解压缩, 因而超过一个的子行中的数据可被压缩在一个子行中, 以释放出更多的空闲空间; 高速缓存106中具有标记存储器204 (相当于压缩映象高速缓存), 标记存储器204的指针指向与每个子行相联系的压缩标志212 (相当于压缩高速缓存), 该压缩标志212用于标识该子行中的数据是否被压缩, 因而该高速缓存106中必然具有控制器来控制数据的压缩、解压缩和压缩标志的设置。权利要求2所请求保护的技术方案与对比文件1中公开的内容相比, 其区别在于权利要求2中的压缩映象高速缓存包括在存储器控制器中, 基于该区别技术特征可以确定本发明实际要解决的技术问题是提供一种将压缩映象高速缓存放置于存储器控制器中的方式, 但对于本领域的技术人员来说可将压缩映象高速缓存放置于存储器控制器中属于本领域的公知常识, 无论是将压缩映

第1页

## 中华人民共和国国家知识产权局

象高速缓存放置于存储器控制器中还是存储器控制器外部的其它部件中，在实现存储器控制器的功能上是一致的。因而在对比文件1的基础上结合公知常识，得到该权利要求所请求保护的技术方案，对于本领域的技术人员来说是显而易见的，不具有突出的实质性特点和显著的进步，因此该权利要求不具有专利法第二十二条第三款规定的创造性。

基于上述理由，本申请的独立权利要求都不具备创造性，本申请不具备被授予专利权的前景。如果申请人不能在本通知书规定的答复期限内提出表明本申请具有创造性的充分理由，本申请将被驳回。

审查员：张坦

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